CLAIMS:

1. An optical scanning device for scanning an information layer (101) by means of a radiation beam (3,5,30,30'), the device comprising a radiation source (2,200) for emitting said radiation beam, an objective (7,90) for converting said radiation beam to a scanning spot at the position of said information layer, and mounting means (9) to adjust the distance between the radiation source and the objective, characterized in that an optical component (6) is provided by means of which the rim intensity of the radiation beam (5,30') at the entrance pupil of the objective (7,90) is substantially independent of the distance between the radiation source (2,200) and the objective for constant marginal beam angle of said radiation beam at the entrance pupil of the objective.

2. An optical scanning device as claimed in claim 1, characterized in that an incoming radiation beam (5,30') enters the objective (7,90) with a predetermined angle to the optical axis (8) and at a predetermined height of an outer radius of an entrance pupil of the objective independent of the distance between the objective and the radiation source (2,200).

3. An optical scanning device as claimed in claim 1, characterized in that the optical component (6) is provided as an electrowetting cell having two switchable meniscus interfaces (M_1,M_2).

4. An optical scanning device as claimed in claim 3, characterized in that the electrowetting cell (6) is arranged between a collimator lens (4,40) and the objective (7,90).

5. An optical scanning device as claimed in claim 3, characterized in that a radius R_1 of a first meniscus surface (M_1) of the electrowetting cell (6) substantially complies with

$$R_1 = \frac{d_2 h_0 \left(1 - \frac{n_1}{n_2}\right)}{\left(h_0 - h_p + \alpha_3 \left(D + \frac{d_4}{n_4} + \frac{d_3}{n_3}\right)\right)}$$

wherein d_2, d_3, d_4 are thicknesses of media of the electrowetting cell, n_1, n_2, n_3, n_4 are the refractive indices of media within the electrowetting cell, h_p is the entrance pupil height of the objective to the optical axis, h_0 is the height of the incoming beam in front of the electrowetting cell to the optical axis, α_3 is the entrance angle with the optical axis of the marginal ray at the entrance pupil of the objective and D is the distance from an exit surface of the electrowetting cell to the objective.

6. An optical scanning device as claimed in claim 3, characterized in that a radius R_2 of a second meniscus surface (M_2) of the electrowetting cell (6) substantially complies with

$$R_2 = \frac{n_3 - n_2}{\dfrac{1}{d_5 + \dfrac{d_4}{n_4} + \dfrac{d_3}{n_3}} - \dfrac{1}{\dfrac{R_1}{n_2 - n_1} - \dfrac{d_2}{n_2}}}$$

wherein d_2, d_3, d_4, d_5 are thicknesses of media of the electrowetting cell, n_1, n_2, n_3, n_4 are the refractive indices of media within the electrowetting cell and R_1 is the radius of the first meniscus surface of the electrowetting cell.

7. An optical scanning device as claimed in claim 1, characterized in that at least one information layer (101) is provided in an optical record carrier (1,100).

8. An optical recording system comprising an optical scanning device as claimed in any one of claims 1 – 7.